Claims

1. A method for separating electronic components joined by solder interconnections comprising the steps of:

supplying an electronic component assembly having at least two components joined by a plurality of solder interconnections and having a first thickness;

providing a cutting element having a thickness less than the first thickness of the solder connections;

heating the cutting element to a temperature sufficient to melt the solder at the point of contact when the cutting element is in contact with and forced against the solder interconnections;

positioning the heated cutting element adjacent the solder interconnections;

applying a force to advance the heated cutting element through the solder interconnections whereby the heated cutting element engages and cuts through the solder interconnections and severs the solder interconnections;

continuing the above steps to cut and sever all the solder interconnections; and

separating the two components.

2. The method of claim 1 wherein the cutting element is a wire.

3. The method of claim 2 wherein the wire is also moved transverse to the solder interconnections.

4. The method of claim 1 wherein the cutting element is a blade.

5. The method of claim 4 wherein a vacuum is applied adjacent the blade to remove the cut solder.

6. The method of claim 4 wherein the blade is also moved transverse to the solder connections.

7. The method of claim 1 wherein the cutting element is a water jet.

8. An apparatus for separating electronic components joined by solder interconnections comprising:

securing means to hold an electronic assembly having at least two components joined by a plurality of solder connections and having a first thickness;

a cutting element having a thickness less than the thickness of the solder interconnections;

a heater to heat the cutting element to a temperature sufficient to melt the solder at the point of contact when the cutting element is contacted with and forced forward against the solder interconnections;

positioning means to position the heated cutting element adjacent the solder interconnections;

advancing means to force the heated cutting element against the row of solder interconnections and through the solder interconnections whereby the heated cutting element cuts and severs the solder interconnections; and

separating means to separate the two components when all the solder connections have been cut and severed by the heated cutting element.

9. The apparatus of claim 8 wherein the cutting element is a wire.

10. The apparatus of claim 9 wherein the wire also moves transverse at the solder interconnections.

11. The apparatus of claim 8 wherein the cutting element is a blade.

12. The apparatus of claim 11 having vacuum means to remove the cut solder.

13. The apparatus of claim 11 wherein the blade also moves transverse to the solder interconnections.

14. The apparatus of claim 8 wherein the cutting element is a water jet.

15. An electronic component assembly separated by the method of claim 1.